



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Takayuki ARAKI et al.

Group Art Unit: 1714

Serial Number: 09/095,842

Examiner: P. Szekeley

Filed: June 11, 1998

For: AQUEOUS DISPERSION OF VINYLIDENE FLUORIDE POLYMER  
AND PREPARATION PROCESS THEREOF

DECLARATION UNDER 37 CFR 1.132

Honorable Commissioner

Washington, D.C. 20231

Sir,

Nobuhiko TSUDA, citizen of Japan, duly deposes and says:

1. That he has graduated from Faculty of Engineering of Kyoto University, Japan, in the year of 1987;

2. That he was employed in his capacity since 1987 by DAIKIN INDUSTRIES, LTD.;

3. That he has been engaged in research and development on aqueous dispersion of fluorine-containing polymers;

4. That he has read and is familiar with the instant application for United States Letters Patent and the Office Action thereto mailed February 2, 2001;

5. That he experimented and proved that the fluorine-containing polymer obtained in Example 7 of US Patent 4,025,709 (Blaise) has an average particle size of more than 200 nm.

## EXPERIMENTAL

The procedures of Example 7 described in US Patent 4,025,709 (Blaise) were repeated as follows:

Into an autoclave of 3 liter capacity, 2 liters of de-ionized water, 2.4grams of  $C_8F_{17}C_2H_4SO_3Na$ , 1.1 grams of potassium acetate and 20 grams of paraffin were charged. The temperature was controlled at 85 °C. The reactor was deoxygenated by evacuation and hexafluoropropylene was charged up to 6 bars then the pressure was adjusted to 90 bars with vinylidene fluoride. The agitation was started and the pressure of the vessel decreased with the progress of the polymerization. When the pressure reached 85 bars, additional vinylidene fluoride was added to 90 bars. This cycle was repeated 40 times. After 12 hours of reaction, the residual monomers were released to bring the pressure back to normal condition and also the vessel was cooled to room temperature to give a white polymer dispersion.

## RESULTS

The polymer concentration was decided to 35% by weight by measuring the residue after drying 1 gram of the dispersion at 150 °C for 30 minutes.

The average particle size was determined with a laser scattering particle size analyzer, ELS-3000 available from Otsuka Electric Co. Ltd., to 278 nm.

## DISCUSSION

The results show the fact that US Patent 4,025,709 does not

disclose the aqueous dispersion of a vinylidene fluoride polymer comprises a vinylidene fluoride polymer having an average particle size of not more than 200 nm and a solid content of from 30 to 50 % by weight.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

This            day of

by \_\_\_\_\_

Nobuhiko TSUDA

We, the undersigned witnesses, hereby acknowledge that Nobuhiko TSUDA is personally known to us and did execute the foregoing Declaration in our presence on:

Date:

Witness \_\_\_\_\_

Date:

Witness \_\_\_\_\_